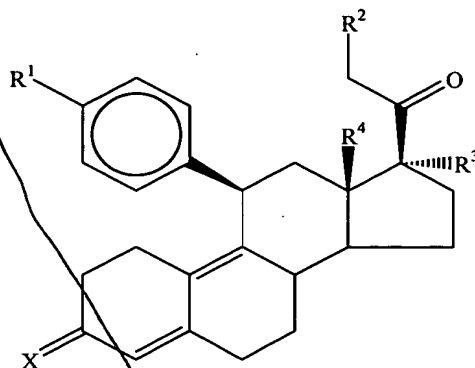


WHAT IS CLAIMED IS:

1

A compound having the general formula:



I

2

3 wherein:

4  $R^1$  is a member selected from the group consisting of  $-OCH_3$ ,  $-SCH_3$ ,  
 5  $-N(CH_3)_2$ ,  $-NHCH_3$ ,  $-NC_4H_8$ ,  $-NC_5H_{10}$ ,  $-NC_4H_8O$ ,  $-CHO$ ,  $-CH(OH)CH_3$ ,  $-C(O)CH_3$ ,  
 6  $-O(CH_2)_2N(CH_3)_2$ ,  $-O(CH_2)_2NC_4H_8$ , and  $-O(CH_2)_2NC_5H_{10}$ ;

7  $R^2$  is a member selected from the group consisting of hydrogen,  
 8 halogen, alkyl, acyl, hydroxy, alkoxy, acyloxy, alkylcarbonate, cypionyloxy, S-alkyl,  $-SCN$ ,  
 9 S-acyl, and  $-OC(O)R^6$ , wherein  $R^6$  is a member selected from the group consisting of alkyl,  
 10 alkoxy ester and alkoxy;

11  $R^3$  is a member selected from the group consisting of alkyl, hydroxy,  
 12 alkoxy and acyloxy;

13  $R^4$  is a member selected from the group consisting of hydrogen and  
 14 alkyl; and

15 X is a member selected from the group consisting of  $=O$  and  $=N-OR^5$ ,  
 16 wherein  $R^5$  is a member selected from the group consisting of hydrogen and alkyl.

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✓2. The compound in accordance with claim 1, wherein  $R^1$  is a member  
 2 selected from the group consisting of  $-N(CH_3)_2$ ,  $-NC_4H_8$ ,  $-NC_5H_{10}$ ,  $-NC_4H_8O$ ,  $-C(O)CH_3$ ,  
 3  $-O(CH_2)_2N(CH_3)_2$ ,  $-O(CH_2)_2NC_4H_8$ , and  $-O(CH_2)_2NC_5H_{10}$ .

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✓3. The compound in accordance with claim 1, wherein  $R^2$  is a member  
 selected from the group consisting of hydrogen, alcyloxy, alkoxy,  $-SAC$ ,  $-SCN$ ,

3 ~~Sub~~ ~~3~~ ~~4~~ ~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~ ~~10~~ ~~11~~ ~~12~~ ~~13~~ ~~14~~ ~~15~~ ~~16~~ ~~17~~ ~~18~~ ~~19~~ ~~20~~ ~~21~~ ~~22~~ ~~23~~ ~~24~~ ~~25~~ ~~26~~ ~~27~~ ~~28~~ ~~29~~ ~~30~~ ~~31~~ ~~32~~ ~~33~~ ~~34~~ ~~35~~ ~~36~~ ~~37~~ ~~38~~ ~~39~~ ~~40~~ ~~41~~ ~~42~~ ~~43~~ ~~44~~ ~~45~~ ~~46~~ ~~47~~ ~~48~~ ~~49~~ ~~50~~ ~~51~~ ~~52~~ ~~53~~ ~~54~~ ~~55~~ ~~56~~ ~~57~~ ~~58~~ ~~59~~ ~~60~~ ~~61~~ ~~62~~ ~~63~~ ~~64~~ ~~65~~ ~~66~~ ~~67~~ ~~68~~ ~~69~~ ~~70~~ ~~71~~ ~~72~~ ~~73~~ ~~74~~ ~~75~~ ~~76~~ ~~77~~ ~~78~~ ~~79~~ ~~80~~ ~~81~~ ~~82~~ ~~83~~ ~~84~~ ~~85~~ ~~86~~ ~~87~~ ~~88~~ ~~89~~ ~~90~~ ~~91~~ ~~92~~ ~~93~~ ~~94~~ ~~95~~ ~~96~~ ~~97~~ ~~98~~ ~~99~~ ~~100~~ ~~101~~ ~~102~~ ~~103~~ ~~104~~ ~~105~~ ~~106~~ ~~107~~ ~~108~~ ~~109~~ ~~110~~ ~~111~~ ~~112~~ ~~113~~ ~~114~~ ~~115~~ ~~116~~ ~~117~~ ~~118~~ ~~119~~ ~~120~~ ~~121~~ ~~122~~ ~~123~~ ~~124~~ ~~125~~ ~~126~~ ~~127~~ ~~128~~ ~~129~~ ~~130~~ ~~131~~ ~~132~~ ~~133~~ ~~134~~ ~~135~~ 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5  $R^4$  is methyl; and

6 X is =O.

1 X 13. The compound in accordance with claim 1, wherein:

2  $R^1$  is  $-NC_4H_8$ ;

3  $R^2$  is hydrogen;

4  $R^3$  is acetoxy;

5  $R^4$  is methyl; and

6 X is =O.

1 X 14. The compound in accordance with claim 1, wherein:

2  $R^1$  is  $-NC_5H_{10}$ ;

3  $R^2$  is hydrogen;

4  $R^3$  is acetoxy;

5  $R^4$  is methyl; and

6 X is =O.

1 X 15. The compound in accordance with claim 1, wherein:

2  $R^1$  is  $-NC_4H_8O$ ;

3  $R^2$  is hydrogen;

4  $R^3$  is acetoxy;

5  $R^4$  is methyl; and

6 X is =O.

1 X 16. The compound in accordance with claim 1, wherein:

2  $R^1$  is  $-C(O)CH_3$ ;

3  $R^2$  is hydrogen;

4  $R^3$  is acetoxy;

5  $R^4$  is methyl; and

6 X is =O.

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- 1 ~~17.~~ The compound in accordance with claim 1, wherein:  
 2  $R^1$  is  $-SCH_3$ ;  
 3  $R^2$  is hydrogen;  
 4  $R^3$  is acetoxy;  
 5  $R^4$  is methyl; and  
 6 X is  $=O$ .

- 1 ~~18.~~ The compound in accordance with claim  
 2 wherein:  
 3  $R^1$  is  $-N(CH_3)_2$ ;  
 4  $R^2$  is hydrogen;  
 5  $R^3$  is methoxy;  
 6  $R^4$  is methyl; and  
 7 X is  $=O$ .

- 1 ~~19.~~ The compound in accordance with claim 1, wherein:  
 2  $R^1$  is  $-NC_5H_{10}$ ;  
 3  $R^2$  is hydrogen;  
 4  $R^3$  is methoxy;  
 5  $R^4$  is methyl; and  
 6 X is  $=O$ .

- 1 ~~20.~~ The compound in accordance with claim 1, wherein:  
 2  $R^1$  is  $-NC_5H_{10}$ ;  
 3  $R^2$  is acetoxy;  
 4  $R^3$  is acetoxy;  
 5  $R^4$  is methyl; and  
 6 X is  $=O$ .

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- ✓ 25. The compound in accordance with claim 1, wherein:  
R<sup>1</sup> is -N(CH<sub>3</sub>)<sub>2</sub>;  
R<sup>2</sup> is methoxy;

4 R<sup>3</sup> is ethoxy;  
5 R<sup>4</sup> is methyl; and  
6 X is =O.

1 ~~26.~~ The compound in accordance with claim 1, wherein:  
2 ~~R<sup>1</sup> is -NC<sub>4</sub>H<sub>8</sub>;~~  
3 ~~R<sup>2</sup> is methoxy;~~  
4 ~~R<sup>3</sup> is methoxy;~~  
5 ~~R<sup>4</sup> is methyl; and~~  
6 ~~X is =O.~~

1 ~~27.~~ The compound in accordance with claim 1, wherein:  
2 ~~R<sup>1</sup> is -NC<sub>5</sub>H<sub>10</sub>;~~  
3 ~~R<sup>2</sup> is methoxy;~~  
4 ~~R<sup>3</sup> is methoxy;~~  
5 ~~R<sup>4</sup> is methyl; and~~  
6 ~~X is =O.~~

1 ~~28.~~ The compound in accordance with claim 1, wherein:  
2 ~~R<sup>1</sup> is -NC<sub>5</sub>H<sub>10</sub>;~~  
3 ~~R<sup>2</sup> is methoxy;~~  
4 ~~R<sup>3</sup> is acetoxy;~~  
5 ~~R<sup>4</sup> is methyl; and~~  
6 ~~X is =O.~~

1 ~~29.~~ The compound in accordance with claim 1, wherein:  
2 ~~R<sup>1</sup> is -C(O)CH<sub>3</sub>;~~  
3 ~~R<sup>2</sup> is methoxy;~~  
4 ~~R<sup>3</sup> is acetoxy;~~  
5 ~~R<sup>4</sup> is methyl; and~~  
6 ~~X is =O.~~

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1 + 30. The compound in accordance with claim 1, wherein:

2  $R^1$  is  $-O(CH_2)_2N(CH_3)_2$ ;

3  $R^2$  is methoxy;

4  $R^3$  is acetoxy;

5  $R^4$  is methyl; and

6 X is  $=O$ .

1 + 31. The compound in accordance with claim 1, wherein:

2  $R^1$  is  $-O(CH_2)_2NC_4H_8$ ;

3  $R^2$  is methoxy;

4  $R^3$  is acetoxy;

5  $R^4$  is methyl; and

6 X is  $=O$ .

1 + 32. The compound in accordance with claim 1, wherein:

2  $R^1$  is  $-O(CH_2)_2NC_5H_{10}$ ;

3  $R^2$  is methoxy;

4  $R^3$  is acetoxy;

5  $R^4$  is methyl; and

6 X is  $=O$ .

1 + 33. The compound in accordance with claim 1, wherein:

2  $R^1$  is  $-N(CH_3)_2$ ;

3  $R^2$  is  $-OC(O)CH_2CH_3$ ;

4  $R^3$  is acetoxy;

5  $R^4$  is methyl; and

6 X is  $=O$ .

1 + 34. The compound in accordance with claim 1, wherein:

2  $R^1$  is  $-N(CH_3)_2$ ;

3  $R^2$  is  $-OC(O)CH_2OCH_3$ ;

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4 R<sup>3</sup> is acetoxy;  
5 R<sup>4</sup> is methyl; and  
6 X is =O.

1 35. The compound in accordance with claim 1, wherein:  
2 R<sup>1</sup> is -N(CH<sub>3</sub>)<sub>2</sub>;  
3 R<sup>2</sup> is -OC(O)OCH<sub>3</sub>;  
4 R<sup>3</sup> is acetoxy;  
5 R<sup>4</sup> is methyl; and  
6 X is =O.

1 36. The compound in accordance with claim 1, wherein:  
2 R<sup>1</sup> is -N(CH<sub>3</sub>)<sub>2</sub>;  
3 R<sup>2</sup> is -OCH=CH<sub>2</sub>;  
4 R<sup>3</sup> is acetoxy;  
5 R<sup>4</sup> is methyl; and  
6 X is =O.

1 37. The compound in accordance with claim 1, wherein:  
2 R<sup>1</sup> is -N(CH<sub>3</sub>)<sub>2</sub>;  
3 R<sup>2</sup> is -OCH=CH<sub>2</sub>;  
4 R<sup>3</sup> is methoxy;  
5 R<sup>4</sup> is methyl; and  
6 X is =O.

1 38. The compound in accordance with claim 1, wherein:  
2 R<sup>1</sup> is -N(CH<sub>3</sub>)<sub>2</sub>;  
3 R<sup>2</sup> is -OCH=CH<sub>2</sub>;  
4 R<sup>3</sup> is ethoxy;  
5 R<sup>4</sup> is methyl; and  
6 X is =O.

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39. The compound in accordance with claim 1, wherein:

$R^1$  is  $-N(CH_3)_2$ ;

$R^2$  is  $-SCN$ ;

$R^3$  is acetoxy;

$R^4$  is methyl; and

$X$  is  $=O$ .

40. The compound in accordance with claim 1, wherein:

$R^1$  is  $-N(CH_3)_2$ ;

$R^2$  is  $-OC(O)H$ ;

$R^3$  is  $-OC(O)H$ ;

$R^4$  is methyl; and

$X$  is  $=O$ .

41. The compound in accordance with claim 1, wherein:

$R^1$  is  $-N(CH_3)_2$ ;

$R^2$  is  $-OC(O)H$ ;

$R^3$  is hydroxy;

$R^4$  is methyl; and

$X$  is  $=O$ .

42. The compound in accordance with claim 1, wherein:

$R^1$  is  $-N(CH_3)_2$ ;

$R^2$  is  $-OC(O)CH_2N(CH_3)_2$ ;

$R^3$  is acetoxy;

$R^4$  is methyl; and

$X$  is  $=O$ .

43. The compound in accordance with claim 1, wherein:

$R^1$  is  $-NC_5H_{10}$ ;

$R^2$  is hydrogen;

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cont. Sub

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**R<sup>3</sup> is acetoxy;**

R<sup>4</sup> is methyl; and

X is =N-OR<sup>5</sup>, wherein R<sup>5</sup> is hydrogen.

~~44.~~ The compound in accordance with claim 1, wherein:

R<sup>1</sup> is -N(CH<sub>3</sub>)<sub>2</sub>;

R<sup>2</sup> is hydrogen;

~~R<sup>3</sup> is methoxy;~~

~~R<sup>4</sup> is methyl; and~~

X is ~~=N-OR<sup>5</sup>~~, wherein R<sup>5</sup> is hydrogen.

**45.** The compound in accordance with claim 1, wherein:

~~R<sup>1</sup> is -NC<sub>5</sub>H<sub>10</sub>;~~

$R^2$  is hydrogen;

R<sup>3</sup> is methoxy;

R<sup>4</sup> is methyl; and

X is =N-OR<sup>5</sup>, wherein R<sup>5</sup> is hydrogen.

46. The compound in accordance with claim 1, wherein:

R<sup>1</sup> is -N(CH<sub>3</sub>)<sub>2</sub>;

R<sup>2</sup> is methoxy;

R<sup>3</sup> is methoxy;

R<sup>4</sup> is methyl; and

X is =N-OR<sup>5</sup>, wherein R<sup>5</sup> is hydrogen.

47. The compound in accordance with claim 1, wherein:

R<sup>1</sup> is -NHCH<sub>3</sub>;

R<sup>2</sup> is methoxy;

$R^3$  is acetoxy;

R<sup>4</sup> is methyl; and

X is =0.

1 ~~48.~~ The compound in accordance with claim 1, wherein:

2  $R^1$  is  $-NHCH_3$ ;

3  $R^2$  is acetoxy;

4  $R^3$  is acetoxy;

5  $R^4$  is methyl; and

6 X is  $=O$ .

1 ~~49.~~ A pharmaceutical composition comprising an effective amount of a  
2 compound in accordance with claim 1 and a pharmaceutically acceptable excipient.

1 50. A method of producing an antiprogestational effect in a patient, said  
2 method comprising administering to said patient an effective amount of a compound in  
3 accordance with claim 1.

1 51. A method of inducing menses in a patient, said method comprising  
2 administering to said patient an effective amount of a compound in accordance with claim 1.

1 52. A method of treating endometriosis, said method comprising  
2 administering to said patient an effective amount of a compound in accordance with claim 1.

1 53. A method of treating dysmenorrhea, said method comprising  
2 administering to said patient an effective amount of a compound in accordance with claim 1.

1 54. A method of treating endocrine hormone-dependent tumors, said  
2 method comprising administering to said patient an effective amount of a compound in  
3 accordance with claim 1.

1 55. A method of treating meningiomas, said method comprising  
2 administering to said patient an effective amount of a compound in accordance with claim 1.

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1                   **60.** A method of postcoital contraception, said method comprising  
2 administering to a patient an effective amount of a compound in accordance with claim 1.

add  $\Delta_2$